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Ruben, Steven M.

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<141> 1999-06-03

<150> 60/088,320

<151> 1998-06-05

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<170> PatentIn Ver. 2.0

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Phe Cys Lys Trp Pro Cys Glu Cys Pro Pro Ser Pro Pro Arg Cys Pro	
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ctg ggg gtc agc ctc atc aca gat ggc tgt gag tgc tgt aag atg tgc	143
Leu Gly Val Ser Leu Ile Thr Asp Gly Cys Glu Cys Cys Lys Met Cys	
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gct cag cag ctt ggg gac aac tgc acg gag gct gcc atc tgt gac ccc	191
Ala Gln Gln Leu Gly Asp Asn Cys Thr Glu Ala Ala Ile Cys Asp Pro	
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cac cgg ggc ctc tac tgt gac tac agc ggg gac cgc ccg agg tac gca	239
His Arg Gly Leu Tyr Cys Asp Tyr Ser Gly Asp Arg Pro Arg Tyr Ala	
65 70 75	
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Ile Gly Val Cys Ala Gln Val Val Gly Val Gly Cys Val Leu Asp Gly	
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Val Arg Tyr Asn Asn Gly Gln Ser Phe Gln Pro Asn Cys Lys Tyr Asn	
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tgc acg tgc atc gac ggc gcg gtg ggc tgc aca cca ctg tgc ctc cga	383
Cys Thr Cys Ile Asp Gly Ala Val Gly Cys Thr Pro Leu Cys Leu Arg	
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Cys Met Asp Asn Arg Cys Cys Ile Pro Tyr Lys Ser Lys Thr Ile Asp			
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 Arg Gly Leu Tyr Cys Asp Tyr Ser Gly Asp Arg Pro Arg Tyr Ala Ile
 65 70 75 80
 Gly Val Cys Ala Gln Val Val Gly Val Gly Cys Val Leu Asp Gly Val
 85 90 95
 Arg Tyr Asn Asn Gly Gln Ser Phe Gln Pro Asn Cys Lys Tyr Asn Cys
 100 105 110
 Thr Cys Ile Asp Gly Ala Val Gly Cys Thr Pro Leu Cys Leu Arg Val
 115 120 125
 Arg Pro Pro Arg Leu Trp Cys Pro His Pro Arg Arg Val Ser Ile Pro
 130 135 140
 Gly His Cys Cys Glu Gln Trp Val Cys Glu Asp Asp Ala Lys Arg Pro
 145 150 155 160
 Arg Lys Thr Ala Pro Arg Asp Thr Gly Ala Phe Asp Ala Val Gly Glu
 165 170 175
 Val Glu Ala Trp His Arg Asn Cys Ile Ala Tyr Thr Ser Pro Trp Ser
 180 185 190
 Pro Cys Ser Thr Ser Cys Gly Leu Gly Val Ser Thr Arg Ile Ser Asn
 195 200 205
 Val Asn Ala Gln Cys Trp Pro Glu Gln Glu Ser Arg Leu Cys Asn Leu
 210 215 220

Arg Pro Cys Asp Val Asp Ile His Thr Leu Ile Lys Ala Gly Lys Lys
225 230 235 240

Cys Leu Ala Val Tyr Gln Pro Glu Ala Ser Met Asn Phe Thr Leu Ala
245 250 255

Gly Cys Ile Ser Thr Arg Ser Tyr Gln Pro Lys Tyr Cys Gly Val Cys
260 265 270

Met Asp Asn Arg Cys Cys Ile Pro Tyr Lys Ser Lys Thr Ile Asp Val
275 280 285

Ser Phe Gln Cys Pro Asp Gly Leu Gly Phe Ser Arg Gln Val Leu Trp
290 295 300

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35 40 45

Cys Lys Trp Pro Cys Glu Cys Pro Gln Ser Pro Pro Arg Cys Pro Leu
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Gly Val Ser Leu Ile Thr Asp Gly Cys Glu Cys Cys Lys Ile Cys Ala
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Gln Gln Leu Gly Asp Asn Cys Thr Glu Ala Ala Ile Cys Asp Pro His
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Arg Gly Leu Tyr Cys Asp Tyr Ser Gly Asp Arg Pro Arg Tyr Ala Ile
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Gly Val Cys Ala Gln Val Val Gly Val Gly Cys Val Leu Asp Gly Val
115 120 125

Arg Tyr Thr Asn Gly Glu Ser Phe Gln Pro Asn Cys Arg Tyr Asn Cys
130 135 140

Thr Cys Ile Asp Gly Thr Val Gly Cys Thr Pro Leu Cys Leu Ser Pro
145 150 155 160

Arg Pro Pro Arg Leu Trp Cys Arg Gln Pro Arg His Val Arg Val Pro
165 170 175

Gly Gln Cys Cys Glu Gln Trp Val Cys Asp Asp Asp Ala Arg Arg Pro
180 185 190

Arg Gln Thr Ala Leu Leu Asp Thr Arg Ala Phe Ala Ala Ser Gly Ala
195 200 205

Val Glu Gln Arg Tyr Glu Asn Cys Ile Ala Tyr Thr Ser Pro Trp Ser
210 215 220

Pro Cys Ser Thr Thr Cys Gly Leu Gly Ile Ser Thr Arg Ile Ser Asn
225 230 235 240

Val Asn Ala Arg Cys Trp Pro Glu Gln Glu Ser Arg Leu Cys Asn Leu
245 250 255

Arg Pro Cys Asp Val Asp Ile Gln Leu His Ile Lys Ala Gly Lys Lys
260 265 270

Cys Leu Ala Val Tyr Gln Pro Glu Glu Ala Thr Asn Phe Thr Leu Ala
275 280 285

Gly Cys Val Ser Thr Arg Thr Tyr Arg Pro Lys Tyr Cys Gly Val Cys
290 295 300

Thr Asp Asn Arg Cys Cys Ile Pro Tyr Lys Ser Lys Thr Ile Ser Val
305 310 315 320

Asp Phe Gln Cys Pro Glu Gly Pro Gly Phe Ser Arg Gln Val Leu Trp
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35 40 45

Leu Val Leu Asp Gly Cys Gly Cys Cys Arg Val Cys Ala Lys Gln Leu
50 55 60

Gly Glu Leu Cys Thr Glu Arg Asp Pro Cys Asp Pro His Lys Gly Leu
65 70 75 80

Phe Cys Asp Phe Gly Ser Pro Ala Asn Arg Lys Ile Gly Val Cys Thr
85 90 95

Ala Lys Asp Gly Ala Pro Cys Ile Phe Gly Gly Thr Val Tyr Arg Ser
100 105 110

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Cys Glu Glu Trp Val Cys Asp Glu Pro Lys Asp Gln Thr Val Val Gly		
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Pro Ala Leu Ala Ala Tyr Arg Leu Glu Asp Thr Phe Gly Pro Asp Pro		
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Thr Met Ile Arg Ala Asn Cys Leu Val Gln Thr Thr Glu Trp Ser Ala		
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Cys Ser Lys Thr Cys Gly Met Gly Ile Ser Thr Arg Val Thr Asn Asp		
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Asn Ala Ser Cys Arg Leu Glu Lys Gln Ser Arg Leu Cys Met Val Arg		
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Pro Cys Glu Ala Asp Leu Glu Glu Asn Ile Lys Lys Gly Lys Lys Cys		
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Ile Arg Thr Pro Lys Ile Ser Lys Pro Ile Lys Phe Glu Leu Ser Gly		
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Cys Thr Ser Met Lys Thr Tyr Arg Ala Lys Phe Cys Gly Val Cys Thr		
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Phe Lys Cys Pro Asp Gly Glu Val Met Lys Lys Asn Met Met Phe Ile		
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 Cys Pro Asn Pro Arg Leu Val Lys Val Thr Gly Gln Cys Cys Glu Glu
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Gln	Arg	Cys	Pro	Pro	Gln	Cys	Pro	Gly	Arg	Cys	Pro	Ala	Thr	Pro	Pro	35	40	45	
Thr	Cys	Ala	Pro	Gly	Val	Arg	Ala	Val	Leu	Asp	Gly	Cys	Ser	Cys	Cys	50	55	60	
Leu	Val	Cys	Ala	Arg	Gln	Arg	Gly	Glu	Ser	Cys	Ser	Asp	Leu	Glu	Pro	65	70	75	80
Cys	Asp	Glu	Ser	Ser	Gly	Leu	Tyr	Cys	Asp	Arg	Ser	Ala	Asp	Pro	Ser	85	90	95	
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Asp	Gly	Val	Ile	Tyr	Arg	Ser	Gly	Glu	Lys	Phe	Gln	Pro	Ser	Cys	Lys	115	120	125	
Phe	Gln	Cys	Thr	Cys	Arg	Asp	Gly	Gln	Ile	Gly	Cys	Val	Pro	Arg	Cys	130	135	140	
Gln	Leu	Asp	Val	Leu	Leu	Pro	Glu	Pro	Asn	Cys	Pro	Ala	Pro	Arg	Lys	145	150	155	160
Val	Glu	Val	Pro	Gly	Glu	Cys	Cys	Glu	Lys	Trp	Ile	Cys	Gly	Pro	Asp	165	170	175	
Glu	Glu	Asp	Ser	Leu	Gly	Gly	Leu	Thr	Leu	Ala	Ala	Tyr	Arg	Pro	Glu	180	185	190	
Ala	Thr	Leu	Gly	Val	Glu	Val	Ser	Asp	Ser	Ser	Val	Asn	Cys	Ile	Glu	195	200	205	
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Ala	Ile	His	Leu	Gln	Phe	Lys	Asn	Cys	Thr	Ser	Leu	His	Thr	Tyr	Lys	275	280	285	
Pro	Arg	Phe	Cys	Gly	Val	Cys	Ser	Asp	Gly	Arg	Cys	Cys	Thr	Pro	His	290	295	300	
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<223> n equals a, t, g or c

<220>

<221> misc_feature

<222> (467)

<223> n equals a, t, g or c

<220>

<221> misc_feature

<222> (483)

<223> n equals a, t, g or c

<220>

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<222> (483)

<223> n equals a, t, g or c

<220>

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<222> (488)

<223> n equals a, t, g or c

<220>

<221> misc_feature

<222> (491)

<223> n equals a, t, g or c

<220>

<221> misc_feature

<222> (494)

<223> n equals a, t, g or c

<220>

<221> misc_feature

<222> (502)

<223> n equals a, t, g or c

<400> 8

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ccattgcagg gaaattctga cttagaaaga gcttcattac attggatcca aatttccttc 120
tccatggctt caacccatgg gtctgagact tgccctccgg ntncatgcata agatagttcc 180
gtttctcaaa accaatggcg actgggttat tctgaccacc ttctccacc cattgccaga 240
ataatcccta gtttctccaa ccagacttcc tatgatcttt gaaagctaag ttcatttccc 300
aattgagatg caattccagt aagaaccaag ccttgggggtt nccanggatt tcaatgggnt 360
gngcgttnnc cagcntgnaa ttggnaaagg caggggtttn caccctcgga aaaccaaag 420
ggttccaccg gcttnacgag gggcctcca gggggaatnc ctttaanaag atctggaagg 480
gancccantt ngtnaaaaa gncttctgga aaaaagcctt gcaggctaaa aatgggggg 539

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<210> 9

<211> 311
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (177)
 <223> n equals a, t, g or c

<220>
 <221> misc_feature
 <222> (189)
 <223> n equals a, t, g or c

<400> 9
 attgaatggt gtgtagttat tcacagggaa ttctgtgcag tgtgcagaga gattcctaaa 60
 cgggaaaagg actgggaata catcctcctt actgtgacct ccccaaaacc tagtccagtg 120
 caaggtatac agtgggtgctc attaaatact tgatgaatac aggaagctgt gcatgtnttc 180
 ctacttttnt tcgaagctct cttcttccaa agctacatga aaatagaatt ttaacagtca 240
 aaattttata ttaagtgcct tagcaaaaga gacatttaat attttcaaag aaatgcatat 300
 gtatgtatac a 311

<210> 10
 <211> 197
 <212> DNA
 <213> Homo sapiens

<400> 10
 ctcttctgta agtcagtggt aatcatgtta gattttctga gagtgaaaac acctgccatc 60
 tacaaattac aaggctggat aacagctcac tccatttgaa attcagtgga aaccaagag 120
 ctaggttctt actggaattt gcatctcaat ttgggaaact gaacttagct ttcaaagatc 180
 ataggaagtc ttgttgg 197

<210> 11
 <211> 484
 <212> DNA
 <213> Homo sapiens

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 <223> n equals a, t, g or c

<220>
 <221> misc_feature
 <222> (75)
 <223> n equals a, t, g or c

<220>
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 <222> (88)
 <223> n equals a, t, g or c

<220>
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 <222> (104)
 <223> n equals a, t, g or c

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 <222> (111)
 <223> n equals a, t, g or c

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 <222> (145)
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 <222> (165)
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<220>
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 <222> (170)
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<220>
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 <222> (229)
 <223> n equals a, t, g or c

<220>
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<220>
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 <221> misc_feature
 <222> (328)
 <223> n equals a, t, g or c

<220>
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 <222> (337)
 <223> n equals a, t, g or c

<220>
 <221> misc_feature
 <222> (356)
 <223> n equals a, t, g or c

<220>
 <221> misc_feature
 <222> (377)
 <223> n equals a, t, g or c

<220>
 <221> misc_feature
 <222> (379)

<223> n equals a, t, g or c

<220>

<221> misc_feature

<222> (392)

<223> n equals a, t, g or c

<220>

<221> misc_feature

<222> (397)

<223> n equals a, t, g or c

<220>

<221> misc_feature

<222> (418)

<223> n equals a, t, g or c

<220>

<221> misc_feature

<222> (424)

<223> n equals a, t, g or c

<220>

<221> misc_feature

<222> (476)

<223> n equals a, t, g or c

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ggcagagtgt atacatatat ttgtgtatgc gtatgaagna attcttgtat aaagagaatt 60

cactccatga atganctctt ctgtagtnna gtgtgaatca tgnagattt netaagagtg 120

aaaaacacct gccatctaca aattnacaag gctggataac agctncactn ccatttgaaa 180

attcagtggg aaacccaaga gctaggttct tactggaatt tgccatctnc aatttgggna 240

aactgaaact taggctttcc aaaggttcat aggggaagtct ggggttgagg aaactagggg 300

attattcctg ggcaatgggg tgggaggnag gtgggtncag aattaacccc gttcgnctt 360

tggttttgag gaacggnant atcttatggc gngccnngg gaagttcttc ggaccctngg 420

gttnnaggcc tgggggaggg aattttgggt cccatgtatg aggtctttct aggtcnggat 480

ttcc

484

<210> 12

<211> 236

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (38)

<223> n equals a, t, g or c

<220>

<221> misc_feature

<222> (182)

<223> n equals a, t, g or c

<220>

<221> misc_feature
 <222> (216)
 <223> n equals a, t, g or c

<220>
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 <222> (220)
 <223> n equals a, t, g or c

<220>
 <221> misc_feature
 <222> (228)
 <223> n equals a, t, g or c

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 ggccgctgct actgtgacta catcggggac ccacgaggtc cgcaataggg agtgtgtgca 120
 caggtgggtcg gtgtgggctg cgtcctggga tgggggtgag tacaacaacg gaccagtcct 180
 tnccagccta aactggcaat gacaactgcc acgtgncatn cggacgggna cggtgg 236

<210> 13
 <211> 32
 <212> DNA
 <213> Homo sapiens

<400> 13
 cgcgatccg cgatggactt taccccagct cc 32

<210> 14
 <211> 39
 <212> DNA
 <213> Homo sapiens

<400> 14
 ctagtctaga ctaggttggc aatttctgag aagtcaggg 39

<210> 15
 <211> 30
 <212> DNA
 <213> Homo sapiens

<400> 15
 cgcgatccg cgcgacttta ccccagctcc 30

<210> 16
 <211> 39
 <212> DNA
 <213> Homo sapiens

<400> 16
 ctaggttacc ctaggttggc aatttctgag aagtcaggg 39

<210> 17
 <211> 733
 <212> DNA

<213> Homo sapiens

<400> 17

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gggatccgga gcccaaattct tctgacaaaa ctcacacatg cccaccgtgc ccagcacctg 60
aattcgaggg tgcaccgtca gtcttctctt tcccccaaa acccaaggac accctcatga 120
tctccccgac tcttgaggtc acatgcgtgg tgggtggacgt aagccacgaa gaccctgagg 180
tcaagttcaa ctggtacgtg gacggcgtgg aggtgcataa tgccaagaca aagccgcggg 240
aggagcagta caacagcacg tacctgtgtg tcagcgtcct caccgtcctg caccaggact 300
ggctgaatgg caaggagtac aagtgaagg tctccaacaa agccctccca acccccatcg 360
agaaaaccat ctccaaagcc aaagggcagc cccgagaacc acaggtgtac accctgcccc 420
catccccgga tgagctgacc aagaaccagg tcagcctgac ctgcctgggc aaaggcttct 480
atccaagcga catcgccgtg gagtgggaga gcaatgggca gccggagAAC aactacaaga 540
ccacgcctcc cgtgctggac tccgacggct ctttcttct ctacagcaag ctcaccgtgg 600
acaagagcag gtggcagcag gggaacgtct tctcatgctc cgtgatgcat gaggtctctg 660
acaaccacta cacgcagaag agcctctccc tgtctccggg taaatgagtg cgacggccgc 720
gactctagag gat 733

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<210> 18

<211> 5

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (3)

<223> Xaa equals any amino acid

<400> 18

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Trp Ser Xaa Trp Ser
  1             5

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<210> 19

<211> 86

<212> DNA

<213> Homo sapiens

<400> 19

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gcgcctcgag atttccccga aatctagatt tccccgaaat gatttccccg aaatgatttc 60
cccgaatat ctgccatctc aattag 86

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<210> 20

<211> 27

<212> DNA

<213> Homo sapiens

<400> 20

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gcggcaagct ttttgcaaag cctaggc 27

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<210> 21
 <211> 271
 <212> DNA
 <213> Homo sapiens

<400> 21
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 aaatatctgc catctcaatt agtcagcaac catagtcccc cccctaactc cgcccatccc 120
 gcccctaact ccgcccagtt ccgcccattc tccgccccat ggctgactaa ttttttttat 180
 ttatgcagag gccgaggccg cctcggcctc tgagctattc cagaagtagt gaggaggctt 240
 ttttggaggc ctaggctttt gcaaaaagct t 271

<210> 22
 <211> 32
 <212> DNA
 <213> Homo sapiens

<400> 22
 gcgctcgagg gatgacagcg atagaacccc gg 32

<210> 23
 <211> 31
 <212> DNA
 <213> Homo sapiens

<400> 23
 gcgaagcttc gcgactcccc ggatccgcct c 31

<210> 24
 <211> 12
 <212> DNA
 <213> Homo sapiens

<400> 24
 ggggactttc cc 12

<210> 25
 <211> 73
 <212> DNA
 <213> Homo sapiens

<400> 25
 gcggcctcga ggggactttc ccggggactt tccggggact ttccgggact ttccatcctg 60
 ccattctaat tag 73

<210> 26
 <211> 27
 <212> DNA
 <213> Homo sapiens

<400> 26

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gcggcaagct ttttgcaaag cctaggc

27

<210> 27

<211> 256

<212> DNA

<213> Homo sapiens

<400> 27

ctcgagggga ctttcccggg gactttccgg ggactttccg ggactttcca tctgccatct 60

caattagtca gcaaccatag tcccgcccct aactccgccc atcccgcccc taactccgcc 120

cagttccgcc cattctccgc cccatggctg actaattttt tttatttatg cagaggccga 180

ggcgcctcg gcctctgagc tattccagaa gtagtgagga ggcttttttg gaggcctagg 240

cttttgcaaa aagctt

256

ctcgagggga ctttcccggg gactttccgg ggactttccg ggactttcca tctgccatct 60
caattagtca gcaaccatag tcccgcccct aactccgccc atcccgcccc taactccgcc 120
cagttccgcc cattctccgc cccatggctg actaattttt tttatttatg cagaggccga 180
ggcgcctcg gcctctgagc tattccagaa gtagtgagga ggcttttttg gaggcctagg 240
cttttgcaaa aagctt 256